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THE TAXONOMIC STATUS OF *ISCHNODEMUS OBLONGUS* (FABRICIUS) AND *ISCHNODEMUS VARIEGATUS* (SIGNORET) (HEMIPTERA: LYGAEIDAE: BLISSINAE)

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Abstract.—*Ischnodemus variegatus* (Signoret) is resurrected from synonymy with *Ischnodemus oblongus* (Fabricius). Important differences between the nymphs of the two species and differences in genitalia and meristic characters of the adults are discussed. *Ischnodemus oblongus* appears to be chiefly Central American in distribution and *I. variegatus* South American. Trinidad records of *I. oblongus* are referred to *variegatus*. Host plants are mentioned. Figures include the fifth instar nymphs, parameres, sperm reservoirs and male genital capsules of both species.

The following discussion illustrates clearly the importance of associating immature stages with adults when making taxonomic decisions concerning insects with incomplete metamorphosis. In the particular case under consideration the adults of two apparently quite distinct species of *Ischnodemus* are so similar that they were synonymized in the most recent revision of the genus for the Neotropical Region (Slater and Wilcox, 1969).

Subsequently, fieldwork in Panama and Trinidad, where careful attention was paid to associating nymphs with adults, has revealed that nymphs of what had been considered to be *Ischnodemus oblongus* (Fabricius) were so extremely different as to make it improbable that a single species was involved. I recently have been able to find reliable adult differences that seem to confirm that two distinct species are represented as is indicated by the nymphal differences.

Fortunately names exist in the literature for these species. *Ischnodemus oblongus* (material from Panama) was described by Fabricius from "America merid" and *Ischnodemus variegatus* (Signoret) (material from Trinidad) from Colombia.

Baranowski (1979) discussed the biology of two species of *Ischnodemus* from Trinidad. His discussion of *I. oblongus* actually is of *variegatus* which he found to breed on the grass *Hymenachne amplexicaulis* (Rudge) Nees growing in or near shallow ponds and streams. In the same paper Baranowski described the egg and all 5 nymphal instars and illustrated the fifth instar nymph.

Slater and Harrington took a series of adults and nymphs of true *oblongus* at Coco Solo (CZ) Panama in 1974 breeding on *Pennisetum purpureum* Schumach.

Believing only a single species was involved, Slater and Wilcox (1969) stated that *Ischnodemus oblongus* (Fabricius) had one of the most extensive ranges of any Neotropical species of *Ischnodemus*. This statement is probably incorrect now that populations from Panama and Trinidad have proven to represent different species.

Other than the nymphal material from Panama and Trinidad I have seen only a series of dried nymphs from Guyana. These nymphs were apparently taken with

adults of typical *variegatus,* and their features agree with those described below for nymphs of *variegatus* from Trinidad.

DIFFERENCES IN THE FIFTH INSTAR NYMPHS

Ischnodemus oblongus (Fig. 3) (material from Panama): 1. Pronotum bicolored, anterior ⅔ black, posterior ⅓ bright yellow. 2. Abdominal terga I and II between mesothoracic wing pads white or very light yellowish. 3. Abdominal terga 3–5 red mesally and as a stripe along posterior margin that reaches lateral edge of abdomen, thus producing large yellow maculae antero-laterally on each segment (confluent anteriorly on tergum 5). 4. Antennal segments I and II dull yellow somewhat suffused with brown and strongly contrasting with dark coloration of segments III and IV. 5. Labium almost reaching mesocoxae. 6. SM6 sclerite rounded anteriorly. 7. Mesonotum with pale anterior margin.

Ischnodemus variegatus (Fig. 4) (material from Trinidad): 1. Pronotum uniformly black. 2. Abdominal terga I between wing pads gray with narrow median yellow stripe on anterior half. Abdominal tergum II dull red. 3. Abdomen chiefly dull red becoming dull grayish laterally, terga 3–4 mesally with a large red ½ ellipse tapered posteriorly. 4. All antennal segments uniformly black. 5. Labium at most barely attaining anterior portion of mesosternum. 6. SM6 sclerite truncate anteriorly. 7. Mesonotum uniformly black.

Adults of the two species are very similar in size and color but may be distinguished as follows: *Ischnodemus oblongus* has an appreciably longer labium than does *variegatus.* In *oblongus* the labium reaches well onto the mesosternum whereas in *variegatus* it at most attains the anterior part. Since tilting of the head can make this distinction confusing, measurement of the total labial length is more reliable. In the admittedly small series measured there is no overlap in labial length in either sex.

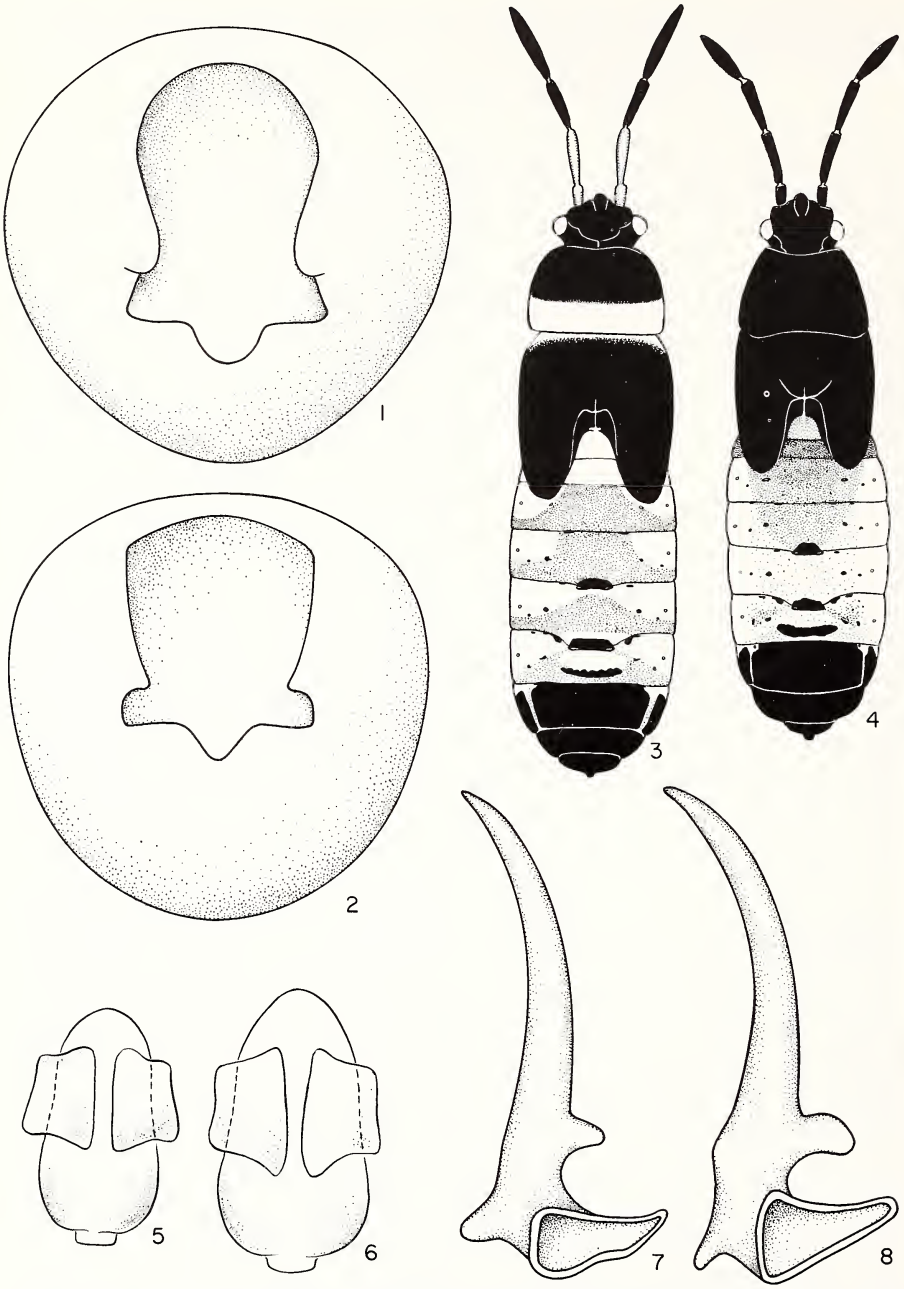
Labial lengths (in millimeters)

		Males		Females	
	N	Mean	Range	Mean	Range
I. oblongus	8	1.84	1.64–2.08	2.10	2.04–2.18
I. variegatus	12	1.29	1.16–1.40	1.55	1.44–1.60

There are also differences in the color patterns of the adults of the two species. Specimens of *oblongus* have relatively narrow, sometimes obsolete, dark bands near the middle of the hind femora and lack a dark stripe along each side of the claval commissure. Specimens of *variegatus* from northern South America and Brazil have a dark stripe along either side of the claval commissure, and usually the femoral black area is appreciably more extensive. However, Slater and Wilcox (1969) noted color differences in material from southern South America (Uruguay, northern Argentina, and the Paraguayan Chaco). These southern specimens resemble *oblongus* in the femoral coloration and in lacking the claval commissure striping.

It would be especially valuable to examine nymphs from Argentina and Uruguay because the three males and two females examined, besides lacking the claval commissure striping, have a labial length somewhat intermediate between that of *oblongus* and *variegatus* (males—mean 1.45 (1.34–1.56); females—mean 1.78 (1.68–1.88)).

Subtle characteristics of the male genitalia also serve to separate *variegatus* from



Figs. 1, 4, 6, 8. *Ischnodemus variegatus.* 1. Genital capsule dorsal view. 4. Fifth instar nymph dorsal view. 6. Sperm reservoir dorsal view. 8. Paramere.

Figs. 2, 3, 5, 7. *Ischnodemus oblongus.* 2. Genital capsule dorsal view. 3. Fifth instar nymph dorsal view. 5. Sperm reservoir dorsal view. 7. Paramere.

oblongus. The most readily distinguishable feature of the male genitalia is the shape of the dorsal opening of the genital capsule. In *oblongus* (Fig. 2) the anterior portion of the margin is abruptly angulate and the angle adjacent to the area in which the parameres lie is slightly produced and subacute. In *variegatus* (Fig. 1) the anterior portion of the inner margin sweeps posteriorly in an almost even arc and the angle adjacent to the area in which the parameres lie is broadly and bluntly rounded.

The parameres are also diagnostic although very similar. In *variegatus* (Fig. 8) the inner projection is more acute and more strongly angled basad than that of *oblongus* (Fig. 7) while the outer projection is relatively larger and more strongly rounded. *Ischnodemus variegatus* also has a more elongate sperm reservoir (Fig. 6) than does *oblongus* (Fig. 5). However, both paramere and reservoir shape are so similar in the two species and orientation so critical that comparative material is almost essential to be able to use these characters successfully.

Slater and Wilcox (1969) reported *oblongus* from Argentina, Bolivia, Brazil, Guyana, Belize, Colombia, French Guiana, Paraguay, Surinam, Peru, Uruguay, Venezuela, and Trinidad. I have reexamined material from most of the above countries. Based on adult features it pertains to *variegatus*. The record of *oblongus* from Trinidad is in error. It is based upon a misreading of Panamanian specimens labeled "Trinidad Rio Pan., 8.VI.72, A. Busck coll."

From the material currently available I conclude that *Ischnodemus oblongus* (Fabricius) is restricted to Central America (specimens examined only from Panama and Costa Rica). All specimens thus far known from South America are now referred to *Ischnodemus variegatus* (Signoret) which is here raised from junior synonymy with *oblongus* with which it was synonymized by Slater and Wilcox (1969). However, these species are not completely allopatric since typical specimens of *variegatus* occur in Central America. I have examined two males from the Chiriqui Mts. of Panama (26 mi NW Guabala Jcn., 25.VI.1974, C. W. & L. O'Brien & Marshall) and one male from Belize (San Antonio, VI.1931, J. J. White). Thus *variegatus* probably occurs widely in Central America where it may be sympatric with *oblongus* in some areas.

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